

Texas Commission on Environmental Quality

Cross-Connection Control Subcommittee

December 1, 2016

Draft Meeting Summary

Announcements

Mr. Richard Bosch

The meeting commenced at 9:00 am. Comment was requested on the summary of the previous meeting (September 7, 2016). The following comments were discussed:

- A needed correction to the meeting date in the June meeting summary was pointed out. The correction was made.
- There was some clarification on the nature of this meeting summary. The meeting summary is not the same as the minutes of the meeting but is instead a brief account of the main points of the meeting.

A motion was made to adopt the meeting summary. After a second motion, the vote was unanimous for adoption. The meeting summary will be posted to the TCEQ web page.

Mr. Shannon Frazier, TCEQ Response and Capacity Development Team, was introduced as the newest member of the TCEQ Cross-Connection Control Program.

Licensing Update

Ms. Linda Saladino

Ms. Linda Saladino, TCEQ Occupational Licensing Program, provided an update on the Fiscal Year 2017 numbers of new and renewed license applications. Below are the numbers for the Backflow Prevention Assembly Tester (BPAT) and the Customer Service Inspector licenses:

	Applications			Tests			Licenses	
	New Received	Renewal Received	Total Received	Administered	Passed	% Passed	New Issued	Renewal Issued
BPA Tester	171	341	512	66	31	47%	54	288
CS Inspector	77	100	177	79	35	44.3%	32	96

An update was provided for the online licensing application process. To apply online for a new license, an applicant needs to be prepared with the required supporting documentation. Before a person can register to take an exam, a license application must be submitted and preapproved. Once an application is approved, an approval letter is sent which must be presented at the time of the exam.

The following pass/fail statistics for the BPAT license testing were provided:

- The overall pass rate was 44%,
- The first time pass rate was 36%, and
- For 12 retests, the pass rate was 75%.

Ms. Saladino also introduced Mr. Larry Diamond as the newest member of the Occupational Licensing Section.

Note: This section was titled **Public Water System Biennial Training** on the meeting agenda.

Ms. Melissa Keller, TCEQ Work Leader Program Support Section, provided an update on the biennial TCEQ Regional Investigator training:

- Approximate date: 1st or 2nd week of June 2017
- Location: Austin area

Ms. Keller requested input regarding the type of training investigators should receive. The resulting general discussion provided the following:

- Attending the TCEQ CCC Subcommittee meeting would be beneficial for TCEQ Regional Investigators. Ms. Keller stated that possibly 10-15 regional investigators may attend the upcoming Subcommittee meeting(s).
- How should a regional investigator respond to a backflow incident?
- Information on the Revised Total Coliform Rule (RTCR) and the effect it will have on regional investigators.

Electronic Resources

Mr. Chirag Patel

Mr. Chirag Patel, TCEQ Cross-Connection Control Program, gave a presentation on the types of electronic resources available to assist in managing a cross-connection control program. He also led the discussion on the challenges of limited resources and how electronic resources could be used to make a program more efficient. Some options a water system has are:

- Electronically stored data may assist a program to share documentation, especially if program administrators are not in the same building. This would also mean that program members would only have to learn one system.
- Commercially available software - Some systems experienced an estimated 50% increase in efficiency using this software to manage a program.
- Smart meters which have the capability of detecting backflow and electronically report that to the water system.
- The TCEQ Source Water Assessment Viewer (SWAV), which is available on the TCEQ web site, was demonstrated and is available to water systems. The SWAV can be used to identify Potential Sources of Contamination (PSOCs) which may justify the use of a backflow preventer.

Coordination, Cooperation & Communication

Mr. Richard Bosch

Mr. Richard Bosch gave a presentation on coordination, cooperation and communication. The presentation was based on Cross-Connection Control Program survey observations.

During cross-connection control program surveys, Mr. Bosch observed circumstances where multiple people and work groups were involved in administering a cross-connection control program. In some instances, program members may not be at the same location. The presentation focused on the challenges and success associated with a Team effort approach to managing a program.

Some members provided the following examples of their programs:

- One system had program administrators in multiple locations and managed the program with hard copy documents. Document archiving occurs in one location and building officials provide CSI and

- BPAT Forms to water system officials.
- Another system was a completely separate entity from the City it provided water to. The system managed the cross-connection control program. The City provided construction plans to the water system so new hazards can be identified. All program documentation was managed by the water system.
- There was some difficulty with the exchange of information between building officials and water system officials when one system hired a third party to conduct CSIs.

Fireline Systems Documentation

Mr. Richard Bosch

Mr. Richard Bosch gave a presentation and led the discussion on required documentation for fireline systems (fire sprinklers, fire suppression systems). The presentation included cross-connection control and State Fire Marshal Office requirements. The following input was received:

- One of the challenges a system faces is verifying that a tester who tests backflow prevention assemblies on firelines is permanently employed by an approved fireline contractor as required by TCEQ. A suggestion was made that W-2 information be provided by the tester so that the permanent employee status could be verified. This could also be used in conjunction with information posted on the State Fire Marshal's Office web site.
- An observation was made that there has been an increase in the installation of double check valve backflow prevention assemblies (DCVA) for residential fire systems.
- A situation was described where fireline DCVA testing uncovered a leaking fire hydrant on private property. The discovery provided the water system the opportunity to charge the Customer for the water loss.
- Of particular interest were circumstances where a failing DCVA is suspected of leading to a backflow incident. In those cases, a water system may want to consider replacing a failed DCVA with a reduced pressure principle backflow prevention assembly (RPBA). However the drop in pressure across the RPBA would need to be considered.
- For firelines interconnected to an auxiliary water system, which can include a number of nonpotable sources increasing the contamination threat, it was stressed that an appropriate backflow prevention assembly be installed. A water system may benefit from having a plan review process for these types of systems. These types of systems can be common in industrial applications.

Emergency Response Plans

Mr. Chirag Patel

Mr. Chirag Patel gave a presentation on emergency response plans. The presentation was based on:

- RG-476, A Public Water System Guide to a Backflow Incident, and
- RG-477, A Public Water System Guide to Preparing a Backflow-Incident Emergency-Response Plan.

It was noted that there will be an update to both RGs.

The presentation covered basic steps to take when planning for backflow or cross-connection incidences, such as:

- Contaminant identification,
- Cross-connection isolation,
- Flushing,
- Testing protocols,
- Public notification, and
- Elimination of contamination source.

Flushing was discussed due to the problems that unplanned flushing during a backflow event can cause, mainly spreading of contaminants. Unidirectional flushing, mapping of valves in the distribution system and hydraulic modeling were discussed as items to include in incident planning so that backflow events can be managed successfully. The following input was received:

- Contaminant identification can be challenging, especially if a source is not readily determined.

- Determine if backsiphonage or back pressure introduced the contaminant into the potable water supply.
- Determine the appropriate laboratory test for the contaminant and use sampling and testing to determine where a contaminant is within a water system. If the source is known, sampling can be performed at varying distances from the source.
- If the contaminant is unknown, perform basic chemistry tests such as chlorine residual, pH, conductivity, or color which may indicate if water quality is impacted. Unexpected results may yield the type of contaminant and the source.
- Determine impact of the suspected contaminant. Does the contaminant have a Maximum Contaminant Level (MCL)? Is a Material Safety Data Sheet (MSDS) available to assist with determining health risks?

USC Course

Mr. Richard Bosch

Mr. Richard Bosch gave a presentation on the Cross-Connection Control Program Specialist Training provided by the University of Southern California (USC) Foundation for Cross-Connection Control and Hydraulic Research.

The TCEQ is considering hosting the training at the TCEQ Central Offices (Austin), Park 35 location. The training will consist of a week-long course that includes classroom learning as well as some field work. The course will be specific to State of Texas regulations.

Registration for the course will be available through the USC website when the details are finalized.

TCEQ Cross-Connection Control Program staff and future subcommittee meetings will have more information as it becomes available.

Carbonated Beverage Systems

Mr. Byron Hardin

Mr. Byron Hardin, Hardin & Associates, gave a presentation and led the discussion on hazards associated with carbonated beverage systems and the type of backflow prevention assemblies required.

The following points were made:

- Current models are more complex and can include dedicated water taps. The dedicated water taps introduce the concern for a cross-connection if they are plumbed downstream of the required backflow prevention assembly.
- There is still the hazard of the Carbon Dioxide (CO₂) contaminating the potable water creating an acid that will leach copper or other materials from the plumbing.
- The suggestion was made to tie in soda dispenser water taps up stream of the soda dispenser BPA.
- Food & Drug Administration and the Centers for Disease Control have requirements for carbonated beverage systems. For example, vinyl lines must be cleaned, maintained, and sanitized regularly to prevent bacterial contamination.

The following input was received:

- Soda dispensers can have a potable water stream to clean out the drain tray. One observation was noted where this line was cross-connected to the line that also serviced an ice machine.
- A comment was made that restaurant owners may be purchasing non-food grade CO₂ gas from industrial companies versus food/medical companies due to cost. This further increases the need for backflow prevention and may contaminate the soda itself.

Revised Total Coliform Rule (RTCR) Assessments

Mr. Al Fuentes

Mr. Al Fuentes, TCEQ Cross-Connection Control Program, provided some basic information on RTCR assessments and how they relate to cross-connection control.

- Level 1 assessment: A Level 1 assessment is triggered by a Total Coliform positive result in a routine bacteriological sample. The assessment is performed by the water system to investigate what lead to the positive result.

- Level 2 assessment: A Level 2 assessment is triggered by an E. Coli positive result in a routine bacteriological sample or when there have been two Level 1 assessments in a 12 month period. The assessment is still performed by the water system but, TCEQ is required to provide on-site assistance.

During Level 1 or 2 assessments, the system is evaluated for “sanitary defects.” A sanitary defect is a pathway for pathogens to contaminate the potable water supply. A cross-connection is definitely a pathway for pathogens and other contaminants to enter the potable water supply. Therefore, a poor or nonexistent Cross-Connection Control Program is considered a sanitary defect and can result in violations and enforcement.

TCEQ staff may visit a water system to assist in identifying the sanitary defects that may have lead to a positive sample result. During this assistance, TCEQ staff review monitoring plans, the Cross-Connection Control Program, monthly operating reports, distribution system maps, and other water system documentation.

Office of Legal Services: Enforcement

Mr. Jess Robinson

Mr. Jess Robinson, TCEQ Office of Legal Services, discussed the types of enforcement actions that can be taken by TCEQ against a public water system or a TCEQ licensed individual.

Enforcement cases against a public water system usually originate at the regional level (from investigations), but can also originate at the TCEQ main office.

The group discussed falsification of Customer Service Inspection (CSI) Certificates. The following input was received:

- Falsification and the intent to falsify are both very difficult to legally prove.
- If a water system has proof that a CSI form is not legitimate, Mr. Robinson noted that a water system has the option to not accept the form.
- The TCEQ alternate CSI and T&M form approval process was discussed to explain how documents can appear different from the TCEQ approved forms. The point was made that alternate forms must be approved by the TCEQ prior to use.
- For water systems with approved alternate forms, it was suggested that these water systems be instructed to make their forms available to inspectors and testers.

Additional Discussion / Comments

Mr. John Decell, Vepo LLC, provided information on the IAC recommendation that all irrigation systems be classified as health hazards. This action taken by the IAC is independent of this subcommittee. During the discussion on this topic, it was made clear to the subcommittee that TCEQ Staff cannot petition existing rules and cannot take a position against our own rules. Individuals are able to petition for changes or amendments to rules, but that is not the role of the Cross-Connection Control (CCC) Subcommittee.

It was suggested that Roles & Responsibilities of the CCC Subcommittee be a possible topic for a future meeting.

Mr. Bill Hamrick, ATB Services Inc., presented a working model of a cross-connection showing how animal wastes can contaminate the potable water supply.